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Specification and Drawings, as originally filed, with Application for Patent Serial No: **2,322,602**, on October 6, 2000, by **IBM CANADA LIMITED - IBM CANADA LIMITÉE**, assignee of Imaddin O. Albazz and Lev Mirlas, for "System and Method for Generating a Contract and Conducting Contractual Activities Under the Contract".

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SYSTEM AND METHOD FOR GENERATING A CONTRACT AND CONDUCTING CONTRACTUAL ACTIVITIES UNDER THE CONTRACT

ABSTRACT

A system and method for automating the contract negotiation and preparation cycle and for electronically facilitating subsequent contractual activities executed pursuant to the contract. The system for generating a contract comprises a Business Rules Book containing a set of rules from which specific rules may be selected for inclusion in the contract. A Terms and Conditions Set representing a unique set of instances of rules selected from the Business Rules Book is selected from a plurality of stored Terms and Conditions Sets. The seller and the buyer settle the provisions of the contract by agreeing to a mutually acceptable set of Terms and Conditions. The administering organization creates a Product List Filter specific to each seller or buyer, targeting products in which there is a mutual interest. The Business Rules Book, Terms and Conditions and Product List Filter are linked in a contract profile, to create a contract representing the agreement between the seller and the buyer, and the contract is locked. Subsequent contractual activities under the contract are executed through the contract, which automatically inserts values from the terms and conditions of the contract to ensure conformity with the terms of the contract and minimize manual administrative activities.

SYSTEM AND METHOD FOR GENERATING A CONTRACT AND CONDUCTING CONTRACTUAL ACTIVITIES UNDER THE CONTRACT

Field of Invention

This invention relates to document generation, workflow control and electronic commerce. In particular, this invention relates to a system and method for generating and recording a contract and for carrying out contractual activities between contracting parties within parameters set by the contract.

Background of the Invention

The commercial contract has evolved as a means of developing an ongoing business trust and loyalty between trading parties. A contract is a document that expresses an agreement between trading partners for the execution of contractual activities. Most often the contractual activities will be commercial in nature, however a contract can also be used to govern the conduct of parties in non-commercial activities. The contract becomes the parties' reference in the execution of such activities, as well as legal evidence of the intention of the parties which governs any dispute regarding the activities.

Today, with trading and partnership taking place over widely dispersed geographical regions among parties that may never have met, the contract has become the cornerstone for closing and executing a buyer-seller business relationship. Business-to-consumer trading tends to involve single impulse transactions, supported either by implied contractual terms or by involved contract documentation setting out terms that have been essentially fixed by the seller. On the other hand, business-to-business (B2B) commerce, defined herein as using electronic interactions to conduct business among enterprises, is more likely to take the form of an ongoing partnership, with repeated transactions that may be of a varying character. Business-to-business commerce thus requires greater flexibility in the generation and execution of the contract governing the parties' ongoing business relationship.

In business-to-business trading the buyer can range from a small, home-based business to a

large multi-national corporation dealing with retailers, manufactures, suppliers and other trading partners. However, common to all business-to-business trading is a contract negotiation and preparation cycle: the parties to a prospective commercial relationship interact in a dialog which culminates in an agreement for a one-time deal or an ongoing buyer-seller commitment, and subsequently one or more contractual activities take place within the framework of the agreement reached between the parties. The contractual activities are governed by the contract, a legally binding document that describes the parties' business relationship and the terms and conditions governing each activity. Even when trading over an electronic marketplace, buyers and sellers are bound indirectly by the contract administered and controlled by the marketplace owner. Contracts can be simple and straight forward, or very elaborate with a complicated set of business rules and many involved parties, depending upon many factors including the size and scope of the arrangement, legal regulations relevant to the contemplated activities, the industry involved, and so on.

Electronic commerce presents its own unique problems. Traders who are moving toward conducting commerce over the Internet, typically by either establishing a self-managed or hosted e-commerce "store" and following a one-to-one contract negotiation process, or by participating in a third party-managed "marketplace", face four main problems from the perspective of negotiation and execution of the contract:

1. How to prepare and publish a business contract over the Internet Conventionally traders have used text editors, copiers, facsimile transmission and mail to exchange contract drafts in a two-way dialog. More recently e-mail over the Internet has become a popular medium for exchanging unclassified contract drafts. However, none of these methods optimally delivers the required productivity, flexibility or control needed for an efficient electronic commerce contract-generating process.

2. How to collaboratively negotiate and approve a contract Trading partners usually go through a contract negotiation process that can involve many individuals from different divisions within one or both traders. Contracts are normally created using standard templates and attachments or by modifying an existing contract from a previous similar arrangement. The selling organization always

has the objective of reducing the contract preparation and negotiation cycles, however even with today's communication advances, this process may still take many months and can lead to business losses if deadlines are missed. This exposure is more dramatic in an accelerating e-commerce business-to-business market, where a wasted day can mean millions of dollars in lost revenues, or losing a deal to a competitor.

Two elements of the contract are primarily responsible for prolonging the contract negotiation cycle. First is the bilateral agreement on the deliverables, whether products or services. Second are the terms and conditions of the arrangement. Prices and discounts are typical examples of terms and conditions, since they reflect what the buyer will pay and what the seller will receive when contractual activities are executed under the agreement. However, there are many other factors in the terms and conditions which can in some situations have an equally significant impact, such as delivery arrangements, billing and payment terms and after sale services, for example.

At the end of the contract preparation and negotiation cycle, each party physically signs and seals the contract, and conducts contractual activities under the contract with reference to a stored copy.

3. How to integrate the contractual terms and conditions into an overall e-commerce solution used by the buyer and seller to execute contractual activities under the contract once the contract is signed In most traditional solutions, an administrator feeds one or more back-end applications with parameters manually extracted from a printed copy of the signed contract. This can work effectively if the seller's marketing and sales divisions follow some rigid set of rules during the contract negotiation phase, but in most cases this does not happen and the seller organization ends up with a contract that does not fit precisely within the predefined back-end system parameters. In other words, the contract, or at least some terms and conditions in the contract, must be executed and controlled manually.

This can present significant administrative problems for a seller organization executing activities under hundreds of business contracts, each with unique terms and conditions, or in a

marketplace used by thousands of interacting buyers and sellers, for example where the marketplace does not offer enough contractual flexibility to match the sales division creativity or cope with document formatting details required by the buyers' accounts payable staff.

Existing automated contract generation systems are of limited assistance, because they tend to consist of pre-written terms and conditions embedded directly into the contract document. This limits the flexibility of the contract and requires a skilled programmer to make revisions, taking control out of the hands of a properly trained contract administrator. Further, the automation ends with the closing (i.e. signing) of the contract document, so most of the administration and management of subsequent activities under the contract, including ensuring conformity with the terms of the contract, must be implemented manually.

4. How to bridge the process and policy "gap" with other trading partners Business enterprises have developed their own methods of achieving their business goals, even within a particular region or industry. They have created processes and implemented manual systems and computer systems to achieve these goals. As these systems were evolving, enterprises encoded them with bits and pieces of their business "rules", used to determine the processes implemented by that particular system and control their workflow. As a result, most business enterprises have scattered or fragmented business policy rules implemented in more than one computer or system, which are connected electronically, or more frequently manually, to achieve the overall enterprise process workflow. Changing an enterprise practice or policy thus often requires amending many application systems, and hence disturbing the workflow balance.

On the other hand, conducting electronic trading with another enterprise, either directly or through an e-marketplace, requires sharing and integrating business processes from both sides. It also entails sharing some policy rules and data to change or control the process workflow at the trading partner's side. Since such information neither originates from nor targets one central system, more integration points and cumbersome technological methods are required to achieve an effective enterprise-to-enterprise business processes molding.

Summary of the Invention

The invention overcomes these disadvantages by providing a system and method for automating the contract negotiation and preparation cycle, and for electronically facilitating subsequent contractual activities executed pursuant to the contract. According to the invention, a system for generating a contract between a seller and a buyer comprises a Business Rules Book (BRB) maintained by an administering organization, for example the seller, containing a set of rules from which specific rules may be selected for inclusion in the contract. The seller selects a Terms and Conditions Set from a plurality of stored Terms and Conditions Sets, each representing a unique set of Instances of rules selected from the Business Rules Book. The seller and the buyer settle the provisions of the contract by agreeing to a mutually acceptable Terms and Conditions Set.

In the preferred embodiment the buyer conveys product needs to the seller, from which the seller creates a Product List Filter specific to the buyer that targets only those products in which the buyer has expressed an interest. The Business Rules Book, Terms and Conditions Set and Product List Filter are linked in a contract profile, to create a contract representing the agreement between the seller and the buyer, and the contract is locked to prevent unilateral amendment by either party.

In a buy-side embodiment, where the buyer is the administering organization, the buyer selects a Terms and Conditions Set from a plurality of stored sets of Terms and Conditions Sets, for example in a tender for bidding by suppliers. The buyer can create a Product List Filter specific to each seller that targets only those products which the seller will be engaged to supply. When an agreement is reached the elements of the contract are linked and locked as described above.

In the preferred embodiment, subsequent contractual activities under the contract are executed through the contract as a conduit, which automatically inserts values from the parameters in the contract. Thus, absolute conformity with the terms of the contract is maintained for each activity executed under the contract, and manual administrative activities are minimized.

The contract preparation and negotiation system and method according to the invention takes advantage of the wide reach of the Internet to automate contract creation and accelerate the contract

negotiation cycle. A contract created according to the invention gives trading organizations a well defined and shared entity to control and monitor their business relationship. The Business Rules Book, Terms and Conditions and Product List Filters are flexible and extendible, offering selling and buying organizations considerable versatility, improving the efficiency of the contract negotiation process, and, unlike other automated contract generation systems, allowing contract revision and upgrading to be managed by an administrator rather than a computer programmer, and also allowing a business person, rather than a computer programmer, to drive business policy.

The execution aspect of the invention reduces buyer and seller administrative overhead and reduces overall transaction cost. The system and method of the invention accordingly allow for a one-to-one marketing and business relationship with unlimited number of trading organizations. The Business Rules Book can potentially form the central repository and enterprise governor for all industry- or business-specific rules and practices. In the preferred embodiments the invention offers granular components that can be easily customized to support different business models or workflows, and allows flexible access control of the generated entities, such as Terms and Conditions and Product List Filters.

The system and method of the invention de-fragments and centrally stores all of a business enterprise's rules, policies and procedures, which facilitates the implementation of changes within an organization and enhances the efficiency of integration of two or more trading enterprises into a business arrangement. The system and method according to the invention also provides means for facilitating a management control chain through the hierarchy of business personnel, allowing each level of personnel to deal with enhancement to and modification of systems within their respective core competency, while limiting access at each level to the responsible personnel.

The present invention thus provides a system for generating a contract between at least one seller and at least one buyer, comprising a computer for: storing at least one compilation of business rules comprising a plurality of rules available to be selected for inclusion in the contract, storing at least one terms and conditions set containing parameters corresponding to selected rules from the compilation of business rules, generating links between the compilation of business rules and the

terms and conditions set to generate specific terms and conditions to be embodied in the contract, and interlocking the compilation of business rules, the terms and conditions set and the links to lock the contract.

The invention further provides a method of generating a contract between at least one seller and at least one buyer, comprising the steps of a. storing at least one compilation of business rules comprising a plurality of rules available to be selected for inclusion in the contract, b. storing at least one terms and conditions set containing parameters corresponding to selected rules from the compilation of business rules, c. generating links between the compilation of business rules and the terms and conditions set to generate specific terms and conditions to be embodied in the contract, and d. interlocking the compilation of business rules, the terms and conditions set and the links to lock the contract.

The present invention further provides a computer program product for use with a computer, the computer program product comprising a computer usable medium having computer readable program code means embodied in said medium for generating a contract between at least one seller and at least one buyer, said computer program product having a. computer readable program code means for storing at least one compilation of business rules comprising a plurality of rules available to be selected for inclusion in the contract, b. computer readable program code means for storing at least one terms and conditions set containing parameters corresponding to selected rules from the compilation of business rules, c. computer readable program code means for generating links between the compilation of business rules and the terms and conditions set to generate specific terms and conditions to be embodied in the contract, and d. computer readable program code means for interlocking the compilation of business rules, the terms and conditions set and the links to lock the contract.

In further aspects of the system and method for generating a contract: the computer stores at least one product list filter for generating a list of a specified subset of products from a master list of products, and generates links between the product list filter, the terms and conditions set and the master list of products; the product list filter comprises a plurality of tiers, each tier generating a list

of a different subset of products; the contract comprises dynamic elements which can be unilaterally altered by either the seller or the buyer; the product list filter is a dynamic element; and/or the contract is locked by the implementation of digital signatures.

The present invention further provides a system for conducting a contractual activity over a computer network pursuant to a contract between at least one seller and at least one buyer, the contract comprising a predefined set of terms and conditions, comprising a communications interface for receiving information from one of the seller and the buyer, and a computer for storing the contract terms and conditions, receiving the information and referencing the terms and conditions of the contract to process the information..

The present invention further provides a method of conducting a contractual activity over a computer network pursuant to a contract between at least one seller and at least one buyer, the contract comprising a predefined set of terms and conditions, comprising the steps of: a. storing the contract terms and conditions, b. receiving information from one of the seller and the buyer via a communications interface, and c. referencing the terms and conditions of the contract to process the information.

The present invention further provides a computer program product for use with a computer, the computer program product comprising a computer usable medium having computer readable program code means embodied in said medium for conducting a contractual activity over a computer network pursuant to a contract between at least one seller and at least one buyer, the contract comprising a predefined set of terms and conditions, said computer program product having a. computer readable program code means for storing the contract terms and conditions, b. computer readable program code means for receiving information from one of the seller and the buyer via a communications interface, and c. computer readable program code means for referencing the terms and conditions of the contract to process the information.

In further aspects of the system and method of conducting a contractual activity over a computer network: the communications interface displays selected information based on terms and

conditions in the contract; and/or the contract is provided with representation criteria comprising product selection criteria or products exclusion criteria, or both, wherein the communications interface displays to the buyer a filtered products list comprising a subset of products from a master product list.

Brief Description of the Drawings

In drawings which illustrate by way of example only a preferred embodiment of the invention,

Figure 1 is a diagrammatic representation of the basic elements of a commercial contract,

Figure 2 is an activity diagram showing the creation and installation of a Business Rules Book in a seller organization,

Figure 3 is a diagrammatic representation of the relationship between the Business Rules Book and the Terms and Conditions Sets,

Figure 4 is an activity diagram showing the creation and publication of a Terms & Conditions Set in a seller organization,

Figure 5 is an activity diagram showing the creation and storage of a Product List Filter,

Figure 6 is a diagrammatic illustration of a manner of linking a multi-fold page of Terms and Conditions Set to a multi-tier Product List Filter,

Figure 7 is an activity diagram showing the negotiation and preparation of a contract created according to the invention,

Figure 8 shows a use cases example of a contract negotiation subsystem according to the invention,

Figure 9 is an activity diagram showing the modification of a contract negotiated according to the invention,

Figure 10 shows a use cases example of a sell-side e-commerce transaction,

Figure 11 shows a use cases example of a buyer-based purchasing transaction involving a group of potential suppliers, and

Figure 12 shows a use cases example of a contract-centric order process.

Detailed Description of the Invention

The invention provides a system and method for automating the contract negotiation and preparation process, and for executing contractual activities under the concluded contract. Figure 1 illustrates the main components or information elements constituting a business contract, which are as follows: A seller profile; a buyer profile; unstructured text attachments (commitments, disclaimers, statement of work, penalties, etc.); traded goods (e.g. a list of products or services); prices, incentives, payments and other financial terms and conditions; delivery mechanisms and schedules; audience (beneficiaries, implementers, auditors, signatories, witnesses, etc.); contract term and territories; signatures and approvals; and contract presentation format, i.e. how the above elements are organized and represented in a contract. In Figure 1 these elements are organized in an order and format which isolates negotiable and non-negotiable elements of the contract.

Non-negotiable elements include the lower six blocks in the diagram, which represent names, profiles, audience, approvals, and any standard contractual text. All other elements are classified as negotiable elements. All non-negotiable elements can be easily collected and managed over an Internet (preferably World Wide Web) based collaborative environment maintained by the seller organization that offers two main features:

1. Data entry and update web pages for collecting and maintaining trading partner profiles and any other information pertaining to personnel or resources that need to be referenced in a contract; and

2. A non-structured text editor which supports HTML or a like format, preferably XML/XSL, and preferably also supports document versions.

Negotiable elements can be further sub classified into Static Elements and Dynamic Elements. The contract-generating aspect of the invention addresses the challenges introduced by Static Elements and Dynamic Elements in a commercial contract.

A Static Element is an element that, once agreed to between the negotiating parties, is unlikely change during the life of the contract. Any subsequent change to a Static Element by mutual agreement between the parties would require amendment of the contract or a new contract, in either case with an appropriate re-signing procedure.

A Dynamic Element is an element that will inevitably change during the term of the contract, for example the seller's product lists which may change with the addition of new products, the discontinuation of old products, or simply the revision of product descriptions. Product prices are also likely to be Dynamic Elements in any contract operating over a lengthy term, as the trading parties are unlikely to commit to fixed prices over an extended interval. Dynamic Elements can represent a serious challenge in the negotiation and administration of a long term contract.

The system and method of the invention extends through the contract preparation, negotiation and closing (locking) phases of the contract. The invention also provides a system and method for contract-centric execution of contractual activities under the contract, according to which activities executed under the contract are conducted through the contract as a processing entity, to reduce the manual administrative burden and ensure compliance with contractual terms, as is discussed in greater detail below.

Generation of the Contract

The preferred embodiment of the invention provides a Business Rules Book, Terms and Conditions Instances, Product List Filters and Linking Contract Elements, all of which are integrated to facilitate the contract preparation and negotiation cycle.

The Business Rules Book (BRB) is an entity which resides on the administrator organization (seller, buyer, market owner/host or other administrator organization) electronic commerce system. The BRB is compilation of business rules which is preferably a centrally-stored codification of all business policies, industry practices, and the scope and characteristics of the selling organization business offerings. The BRB is preferably invisible to users from the buyer organization, and even to users inside the seller organization who do not have a business justification to work on BRB. In a marketplace environment, the BRB is owned and administered by the marketplace owner, who will make it accessible to all participating buyers and suppliers. Figure 2 illustrates an example of the creation and installation of a Business Rules Book in a seller organization, by way of example, according to the invention.

The Business Rules Book contains any desired number of "Pages", which are preferably logically organized into business disciplines that are sensible within the context of the implemented e-commerce store or marketplace business and industry. For example, separate Pages could be provided for contract-specific elements such as pricing and discounts, order fulfillment, billing practices, invoice layout, payment schedules etc., along with Pages defining industry-specific elements such as group insurance policies, regulatory practices etc. A Page can be further divided into a plurality of "Folds", by which each Fold inherits the main characteristics of the Page but can also hold its own specific set of parameters. Pages can also be grouped together in an aggregate page.

Each BRB Page and Fold thus holds a predefined set of parameters, which in the case of a Page represent the full spectrum or range of options offered by the seller in the category to which the Page is directed, and in the case of a Fold may represent a defined subset of the parameters contained in the Page. Each parameter is linked to a corresponding linking program which executes the required business logic to implement the rules contained within the respective Page or Fold.

Linking programs can be written in any language, however rules engines are preferred for their flexibility and ease of use.

An administrator organization requires only one BRB to implement and run a business-to-business e-commerce site or electronic marketplace. Once the BRB is in place, it becomes the central source or reference template for all allowed and supported practices within the seller or marketplace organization. The BRB is customizable and can be updated and/or extended by the administrator organization. While BRB changes would not be expected to be a daily operation practice, since no business would ordinarily change their business practices that frequently, the BRB offers sufficient flexibility for the administrator organization to amend business rules and introduce new business rules in response to market changes and buyer demands. This is done either by updating specific pages or by inserting new pages to the BRB. New pages can be developed either in-house or by a solution provider, and in the preferred embodiment are implemented only by management personnel having access to a BRB modification interface.

From a software developer or seller perspective, the BRB can be designed with a certain industry focus in mind. For example, a BRB can be specific to the health care industry, government, manufacturing or any other industry vertical.

The BRB is used in conjunction with Terms & Conditions Instances. Each Terms & Conditions (Ts&Cs) Instance represents a set of specific Instances of Pages in the Business Rules Book. The Ts&Cs Instances are created by the administering organization, which in the case of a seller may involve personnel from the seller's sales and marketing division, for example a sales or business development administrator. Like the BRB, the Terms and Conditions Instances can also be considered to consist of Pages. Each Page of the Ts&Cs Instances corresponds to a Page in the Business Rules Book, and provides the appropriate execution parameters for the BRB Page logic. For example, if the BRB page contains logic to determine a discounted price, the corresponding Ts&Cs Instance in the Ts&Cs Set would set the discount percentage.

The Ts&Cs Instances thus combine to generate a specific Ts&Cs Set within the parameters

established by the BRB, which is deemed to be attractive to a buyer and acceptable to the seller. Figure 3 illustrates the hierarchical relationship between the Ts&Cs Set and the BRB. Figure 4 illustrates an example of the creation and publication of a Ts&Cs Instances.

An enterprise implementing a business-to-business e-commerce site or marketplace needs at least one Ts&Cs Set to create contracts. However, in order to give more choices to the sales team, the preferred embodiment of the invention provides for the creation of many different Ts&Cs Sets using the Business Rules Book. Each Ts&Cs Set represents an integrated set of terms and conditions which can be used selectively by the sales group to prepare and propose contracts to prospective buyer organizations. In a marketplace, different Ts&Cs Sets created by a supplier can be used by the e-commerce site to respond to a request for quotation (RFQ) from a buyer either by automatic rating and matching of the request or by pre-assigning a Ts&Cs Set to the buyer.

In the preferred embodiment each Ts&Cs Set contains the following information: Ts&Cs identifier or reference number; Ts&Cs short description; Ts&Cs Status (Active, Published, Restricted, Test, Expired); links to applicable non-structured text attachments, like special conditions or disclaimers; dates for Ts&Cs creation, start, expiry; and Pages designed for the targeted store business and industry.

The following (non-limiting) examples of Ts&Cs Instances illustrate how the Ts&Cs Set can play a focal role in a business-to-business e-commerce site:

- Pricing: Applicable pricing model, e.g. Fixed, Auctions, RFQ (useful for supporting a multi-pricing contract with a mix of fixed- and dynamic-priced products); applicable % discount by each category; applicable bottom line discount; price uplift % (applicable to all items); minimum monetary amount for a single transaction (for % discount eligibility); maximum monetary amount for the contract; exit to user-defined pricing rule, defined using a built-in rule engine;

- Fulfillment Options, such as: Split orders policy (splitting rules, allow partial fulfillment, allow back order creation), aggregation policy, maximum aggregation delay, back order policy, maximum waiting period of back order; order substitution policy (substituting out-of-stock item by another

item with equivalent features and/or price);

- Monetary amount toleration: Acceptable tolerance level in a difference between a PO and corresponding delivery notice and invoice, rounding-off rules (especially useful in multi-currency transactions);

- Retention periods, for purchase requests, purchase orders, receipts, and invoices;

- Customer care: Product return and replacement policy; warranty; service level agreement;

- Billing Arrangements: Frequency, cost centers, etc.;

- Payment Options: P-cards, checks, etc.;

- Shipping Arrangements: Frequency, courier, packaging, etc.;

- Formatting pages, to provide flexibility in: Purchase order numbering; invoice numbering; contract layout (formatting, page size, etc.); invoice layout or p-card statement level; purchase order layout; delivery notice layout; transmission media (softcopy, printed copies, etc.); electronic transmission protocols;

Each Terms and Conditions Set created from the Business Rules Book and Terms and Conditions Instances is an entity independent of a contract, so the same terms and conditions may be reused in contracts for different buyers by implementing the same Ts&Cs Set. Pages and Folds within the Terms and Conditions Instances reflect a balance of available terms and conditions as delimited by the BRB, which are selected by the sales group and ideally ratified by management.

During the contract negotiation process the seller may decide to switch into a more attractive Ts&Cs Set, to overcome buyer reluctance or a competitive offer and win the buyer's business. This is readily done by simply referencing a different Ts&Cs Set identifier or reference number in the proposed contract or in response to an RFQ. Once a contract is approved and signed by the buyer, a copy of the selected Ts&Cs Set becomes an integral part of that contract. A contract may only include one Ts&Cs Set.

Similarly, in a marketplace a supplier may decide to implement a competitive Ts&Cs Set and dedicate that Ts&Cs Set for RFQs received from a certain buyer. Other Ts&Cs Sets can be automatically interchanged by the e-commerce system depending, for example, on the value or the product items in a received RFQ.

In the preferred embodiment, when a new Ts&Cs Set is first created by an administrator it is assigned a 'Test' status and becomes accessible only to the creator and other personnel at the administrator organization having the required system access privileges, to allow for proper verification (and optionally management approval) of the new Ts&Cs Set, for example as to pricing, invoicing format etc., before implementation. Once testing is over and the new Ts&Cs Set has received any required approvals, the status of the Ts&Cs Set is changed to 'Active' and the Ts&Cs Set can be published by the administrator for inclusion in new contract proposals.

Active Ts&Cs Sets can be reused as desired to create multiple contract proposals. Ts&Cs Sets may optionally be restricted by the administrator organization to a certain buyer or to a group of buyers. They may also be restricted by product(s), business volume, value or any other desired categorization. These features are especially useful in a marketplace implementation.

In a self-administered or hosted e-commerce store, access control may optionally be introduced to restrict the accessibility to and use of Ts&Cs Instances and/or Sets. This restriction will likely be required in a marketplace implementation, for example where the seller site is potentially viewed by many different buyer organizations, each with a different set of terms and conditions. The following are some (non-limiting) examples of access control policies which may be enforced according to the invention:

- Ts&Cs Instances and/or Ts&Cs Sets may be restricted by the seller to a certain buyer or to a group of buyers;

- Ts&Cs Instances and/or Ts&Cs Sets may be restricted by business volume or value, e.g. they may only be used for arrangements having annual revenues exceeding a selected amount;

- Ts&Cs Instances and/or Ts&Cs Sets may be linked to one or more Product List Filters, as described below.

A Product List Filter (PLF) is a representation of a seller's product list which replaces the complete list of all products available from a seller organization (as used herein the term "products" includes both products and services). This representation comprises products selection and/or exclusion criteria, based on a selection metaphor. The representation criteria are structured and stored in a way that ensures rebuilding the targeted product list from a master product catalog, or from multiple catalogs or other product information sources, any time the target product list is required. Depending upon the used PLF, a generated list could be static with the same products being produced at every run, or could be dynamic with new products being added or removed according to changes taking place at the seller organization. Figure 5 illustrates an example of the creation and storage of a Product List Filter.

Different tools can be adapted to create Product List Filters, for example commercially available tools commonly known as configurators, however the configurator should be capable of saving and reusing a created PLF. The PLF is stored under a unique identifier or reference number, and becomes the products element representation in a contract. The PLF can thus be considered to be an extension of the Terms and Conditions Instances, in the sense that it is an instance (an agreed to subset of products) which governs the scope of products to which the other terms and conditions of the contract apply. However, the PLF is advantageously constituted as a separate entity because it will typically advantageously be a Dynamic Element, and also because it serves as a useful tool for targeted marketing and other communications to the buyer.

A PLF can be extended into multi-tier configuration where each tier holds a logical division of the targeted product set domain. Each tier of a multi-tier PLF has its own sub-identification, which is hierarchically linked to the main PLF identification. When a PLF is referenced, all products from the related tiers within that PLF are included. However, when a tier sub-identification is referenced, products from other tiers in the same PLF are excluded.

PLFs can be implemented within the contract preparation and negotiation cycles in different scenarios. For example, a seller may define a product list to be offered to a particular buyer and create a specific PLF for that list, which is used by the contract preparation administrator to prepare the contract. In another example, seller and buyer representatives negotiate and agree on a targeted list of products, which is then reverse engineered by the seller to create a PLF. In each case, once a product list (which may be framed more broadly as a list of product categories) is agreed to and approved it will be defined by a corresponding PLF which becomes an integrated component of the contract. This eliminates the need to include an actual product list in the contract, and offers the flexibility required to generate a dynamic product list that can be refreshed with new products whenever the seller decides that such new products should be made available.

A seller can define one or more PLFs that can be linked to offered Ts&Cs Sets or restricted to certain buyers, thus controlling the content of the product list on a buyer-specific basis. The specified buyer(s) become a target buyer for the filtered product list, and PLFs enforce the products viewable by any particular buyer in the execution aspect of the invention, discussed below, whenever the buyer accesses the seller's e-commerce site (store or marketplace). The buyer can then select or search for required products from the filtered version of the seller's master product list.

All contract Static Elements and Dynamic Elements are tied together in a contract profile, which includes linking the Product List Filter(s) and any Dynamic Elements in the Terms and Conditions Set. Figure 6 illustrates an example of linking a Ts&Cs Page having a multiple Folds to a multiple-tier PLF. Other scenarios might involve linking Ts&Cs Page Folds to other contract elements, for example to different divisions of a buyer organization.

When a negotiated contract is approved by both the seller and buyer the Contract Profile, including non-negotiable elements, Ts&Cs and PLFs, is locked to prevent any accidental or deliberate change to the contract elements. According to the preferred embodiment of the invention, the contract then becomes the core of all contractual activities executed pursuant to the contract.

The system and method of the invention can equally be implemented in a buyer-based

contract negotiation and preparation cycle. The use cases diagram of Figure 11 illustrates an example of business-to-business implementation in which the buyer, shown in Figure 11 as a manufacturer (but may also be a distributor or any other buyer role), is purchasing direct or indirect material from a seller, shown in Figure 11 as a group of potential suppliers. In this case the buyer implements and administers a Business Rules Book with associated sets of Terms and Conditions Instances, specifying the volumes required, prices the buyer is willing to pay, delivery schedules, payment terms etc. The buyer may develop and implement any number of Product List Filters for product purchases, drawing from a list of supplies required by the buyer, with each PLF designed to be visible only to suppliers relevant to each particular product or product category.

Execution of Contractual Activities under the Contract

When trading parties have approved a contract, the elements are linked, sealed and saved at the seller's e-commerce site (store or marketplace). Authorized buyer and seller personnel can view the contract. However, changes to any negotiable Static Element, Ts&Cs Set or PLF in an approved contract requires the trading parties' re-approval. Changes to the contents of a Dynamic Element, for example where updates are made by the seller to the master product catalog contents which include product categories within a PLF, do not require the buyer's approval since the impact of these changes is shielded by the PLF and such changes are contemplated by the contract.

When activated by the contract administrator, an approved contract becomes the central business control component in the execution aspect of the system and method of the invention. All other integrated processes reference the contract and related subsystems whenever a buyer-seller transaction is initiated. In effect, the contract becomes a processing entity through which contractual activities executed under the contract are routed, as illustrated in Figure 10.

It will be appreciated that the contract can play this central role in any e-commerce implementation model, most advantageously in a business-to-business context, and the invention is not limited to the sell-side model illustrated in Figure 10. Different implementation models such as marketplace scenarios or buy-side procurement, as shown in Figure 11, may introduce new parties and workflows, but the contract elements and its central governing role remain equally applicable.

The contract Ts&Cs Set and Product List Filter are used by the seller's e-commerce site to determine the contents, prices, process flow, and 'look and feel' of the business-to-business store or marketplace from the buyer perspective. The seller maintains one copy of a master product catalog, or a group of catalogs, and by using different Ts&Cs Sets combined with buyer-selected Product List Filters, the seller can create unlimited one-to-one customized store or marketplace user interfaces for each different buyer organization.

Moreover, for each contractual activity executed under the contract, the terms of the activity are imported into transaction documentation from the contract itself, thus avoiding both the administrative burden of ensuring compliance with the contract and the interposition of human error or oversights which may occur through manual administration. In each transaction, business forms in a format previously agreed to between the parties are generated automatically from the contract elements. Dynamic Elements such as the PLF are maintained fully up to date by virtue of the seller's background maintenance and updating of catalogs and other product information, and all instances of the BRB specific to the particular buyer are incorporated into the transaction documentation without manual intervention.

To implement the system of the invention the seller organization creates a BRB, which may be prepared by the seller in-house or refined from templates or precedents provided by an e-commerce solution provider and supplied to the seller. Once approved the BRB, containing all management approved policies and practices, is published by the seller and installed on the seller's e-commerce site by the e-commerce solution provider or a site administrator.

Using the BRB as a guide, the seller's contract administration staff, with the necessary direction from marketing, finance and any other involved divisions, creates test Ts&Cs Sets for approval by management, and ultimately publishes a collection of approved Ts&Cs Sets each specifying respective sets of Ts&Cs Instances representing specific Instances of the negotiable elements from the seller organization's BRB. The seller also compiles a product catalog, or a group of catalogs or other product information sources, featuring the complete list of products to be made available to prospect buyers, preferably identifying one or more product categories for each product.

During negotiation of the contract with a prospective buyer, the seller's administration personnel prepare the required extraneous contractual text elements, including prospect buyer organization profile. The seller's sales personnel create a Product List Filter, optionally with multiple tiers, based on discussions with the prospect buyer, and supply seller administration staff with the PLF reference number. Sales personnel select an appropriate Ts&Cs Set from the organization's published collection and advise the administration staff with the chosen Ts&Cs Set reference. If it is determined that none of the existing Ts&Cs is attractive enough or consistent with the prospect buyer's particular requirements, for example in pricing or fulfillment areas, sales personnel may initiate the creation of a new Ts&Cs Set for management approval, which could be restricted to that particular business arrangement or published for subsequent use with other prospect buyers. If it is determined that the existing BRB is not flexible enough to generate an attractive Ts&Cs Set, management can initiate the process of adding new pages to the BRB or extending or amending existing BRB Pages (the Ts&Cs Set, being a set of specific terms and conditions from within the range permitted by the BRB, cannot offer terms or conditions outside the scope of the BRB).

The seller's administration personnel use the PLF and Ts&Cs Set reference information to prepare and publish a complete contract proposal. The proposed contract is presented to the prospect buyer through a secure Internet (preferably World Wide Web) connection, preferably through a site designed specifically for contract negotiation, to the decision making team at the buyer organization. The buyer and seller negotiating teams collaborate over the secure site to amend and update negotiable contract elements. Figures 7 and 8 illustrate examples of the negotiation and preparation of a contract thus generated according to the invention.

When final revisions of all contract elements are approved by negotiating parties, all elements are interlocked by the seller contract administration staff to prevent further changes to the contract, as shown in Figure 8. The contract is locked, for example using conventional digital signature techniques or otherwise, to lock all contract elements including the designated Ts&Cs Set and the Product List Filter, and is registered by the seller's administrator as a signed contract. Thereafter, the Static Elements of the contract may be amended only by mutual agreement between the parties, in the manner illustrated in Figure 9.

Signed contracts are either automatically activated by the system upon interlocking of contract elements, or manually published (i.e. set to an 'Active' state by the administrator). Active contracts are exposed to other e-commerce subsystems, such as order management, fulfillment, billing and payment, services, etc. The contract PLF determines which products from the seller's master product list sources are made visible to buyer personnel for processing under the contract. Similarly, the contract Ts&Cs Instances determines the prices which are viewed by buyer personnel and, when the buyer submits a requisition, how these requisitions are fulfilled and which prices should appear in the invoice. Figures 10 and 11 respectively illustrate use cases examples of a sell-side e-commerce transaction, and a buyer-based purchasing transaction involving a group of potential suppliers as seller and a manufacturer as buyer.

The contract continues to govern the e-commerce business transaction processes between the seller and the buyer until expiry of the contract term. A contract can be terminated by the seller, by the buyer, or by mutual agreement, according to the terms of the contract. A contract may also terminate when a specific condition from the Ts&Cs Set is met, for example when the maximum monetary amount is reached or when stipulated products are fully delivered. A sample contract-centric order process showing the execution of a contractual activity under a contract is illustrated in the use cases diagram of Figure 12, which includes a seller-initiated contract activation use case and shows the activities of a requisitioner (e.g. a purchaser) within the buyer organization.

It can be seen that the system and method of the invention can also be applied in a business-to-consumer environment. Ordinarily the terms of the contract would be fixed by the seller or other administering organization, which would select a suitable Ts&Cs Set to be used for all consumer contracts, without a negotiation phase. However, the linking of the Business Rules Book, Ts&Cs Set and PLF, as well as the execution of contractual activities through the contract, occurs in the same fashion as that described above in the business-to-business environment.

In a further embodiment the system and method of the invention also accommodate auctions, marketplace exchanges and special offers. To introduce an auction or a special bid offering to a business-to-business store or marketplace, a buyer or a supplier may:

- Create a Product List Filter for the promoted special, auctioned or required products;

- Create and test a special Ts&Cs Set to specify the auction or bid type and applicable pricing and fulfillment terms;

- Activate the special Ts&Cs Set to make it accessible by the targeted buyers or suppliers; and

- Publish the special Ts&Cs Set and notify targeted buyers or suppliers.

The system and method according to the invention thus provide means for facilitating a management control chain, through the hierarchies established by the BRB and BRB Pages/Folds, Ts&Cs Sets and Ts&Cs Instances, PLFs and PLF Tiers. This allows businesses to maintain control over the content of contracts through the hierarchy of their personnel. For example, in a sell-side contractual negotiation seller executives can determine the basic rules for the BRB, while marketing managers can control the implementation of Ts&Cs Instances and sales personnel can select appropriate Ts&Cs Sets for each prospect or customer. Access privileges to the various contract elements can be restricted (as to visibility, use/and or modification) according to the level of personnel responsible for each respective element. Similarly, different departments within a buyer organization may have access to different tiers of a PLF, or different Ts&Cs Sets. This enables a business to operate efficiently, consistently, and within the boundaries accorded to each level of the organization.

The system and method of the invention also improve the control of process workflow within an enterprise and between trading partners, through interaction between the BRB and Ts&Cs Instances. Rules can be invoked by the BRB according to Ts&Cs parameters and/or the step reached in a workflow process (for example as determined by the occurrence of a prior event), and Ts&Cs Instances can thus direct workflow processes differently in the case of contracts which embody different Ts&Cs Sets.

Preferred embodiments of the invention having been described by way of example only, it will be appreciated that various modifications and adaptations of the invention may be made without

departing from the scope of the invention, as set out in the appended claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A system for generating a contract between at least one seller and at least one buyer, comprising

a computer for:

storing at least one compilation of business rules comprising a plurality of rules available to be selected for inclusion in the contract,

storing at least one terms and conditions set containing parameters corresponding to selected rules from the compilation of business rules,

generating links between the compilation of business rules and the terms and conditions set to generate specific terms and conditions to be embodied in the contract, and

interlocking the compilation of business rules, the terms and conditions set and the links to lock the contract.

2. The system as defined in claim 1 in which the computer further stores at least one product list filter for generating a list of a specified subset of products from a master list of products, and generates links between the product list filter, the terms and conditions set and the master list of products.

3. The system as defined in claim 2 in which the product list filter comprises a plurality of tiers, each tier generating a list of a different subset of products.

4. The system as defined in claim 2 in which the contract comprises dynamic elements which can be unilaterally altered by either the seller or the buyer.

5. The system as defined in claim 4 in which the product list filter is a dynamic element.

6. The system as defined in claim 1 in which the contract is locked by the implementation of digital signatures.

7. A method of generating a contract between at least one seller and at least one buyer, comprising the steps of:

a. storing at least one compilation of business rules comprising a plurality of rules available to be selected for inclusion in the contract,

b. storing at least one terms and conditions set containing parameters corresponding to selected rules from the compilation of business rules,

c. generating links between the compilation of business rules and the terms and conditions set to generate specific terms and conditions to be embodied in the contract, and

d. interlocking the compilation of business rules, the terms and conditions set and the links to lock the contract.

8. The method as defined in claim 7 including the additional steps of:

a. storing at least one product list filter for generating a list of a specified subset of products from a master list of products, and

b. generating links between the product list filter, the terms and conditions set and the master list of products.

9. The method as defined in claim 8 in which the product list filter comprises a plurality of tiers, each tier generating a list of a different subset of products.

10. The method as defined in claim 8 in which the contract comprises dynamic elements which can be unilaterally altered by either the seller or the buyer.

11. The method as defined in claim 10 in which the product list filter is a dynamic element.

12. The method as defined in claim 7 in which the contract is locked by the implementation of digital signatures.

13. The method as defined in claim 7 including, between steps c. and d., the step of:

communicating the contract to the seller or to the buyer for amendment or approval.

14. A system for conducting a contractual activity over a computer network pursuant to a contract between at least one seller and at least one buyer, the contract comprising a predefined set of terms and conditions, comprising:

a communications interface for receiving information from one of the seller and the buyer, and

a computer for storing the contract terms and conditions, receiving the information and referencing the terms and conditions of the contract to process the information.

15. The system as defined in claim 14 in which the communications interface displays selected information based on terms and conditions in the contract.

16. The system as defined in claim 15 in which the contract contains representation criteria comprising product selection criteria or products exclusion criteria, or both, and the communications interface displays a filtered products list comprising a subset of products from a master product list.

17. A method of conducting a contractual activity over a computer network pursuant to a contract between at least one seller and at least one buyer, the contract comprising a predefined set of terms and conditions, comprising the steps of:

a. storing the contract terms and conditions,

b. receiving information from one of the seller and the buyer via a communications

interface, and

c. referencing the terms and conditions of the contract to process the information.

18. The method as defined in claim 17 in which the communications interface displays selected information based on terms and conditions in the contract.

19. The method as defined in claim 18 including the step of providing the contract with representation criteria comprising product selection criteria or products exclusion criteria, or both, wherein the communications interface displays a filtered products list comprising a subset of products from a master product list.

20. A computer program product for use with a computer, the computer program product comprising a computer usable medium having computer readable program code embodied in said medium for generating a contract between at least one seller and at least one buyer, said computer program product having

a. computer readable program code means for storing at least one compilation of business rules comprising a plurality of rules available to be selected for inclusion in the contract,

b. computer readable program code for storing at least one terms and conditions set containing parameters corresponding to selected rules from the compilation of business rules,

c. computer readable program code for generating links between the compilation of business rules and the terms and conditions set to generate specific terms and conditions to be embodied in the contract, and

d. computer readable program code for interlocking the compilation of business rules, the terms and conditions set and the links to lock the contract.

21. The computer program product as defined in claim 20 including program code embodied in said medium for:

a. storing at least one product list filter for generating a list of a specified subset of products from a master list of products, and

b. generating links between the product list filter, the terms and conditions set and the master list of products.

22. The computer program product as defined in claim 21 in which the product list filter comprises a plurality of tiers, each tier generating a list of a different subset of products.

23. The computer program product as defined in claim 21 in which the contract comprises dynamic elements which can be unilaterally altered by either the seller or the buyer.

24. The computer program product as defined in claim 23 in which the product list filter is a dynamic element.

25. The computer program product as defined in claim 24 in which the contract is locked by the implementation of digital signatures.

26. The computer program product as defined in claim 24 including program code embodied in said medium for communicating the contract to the seller or to the buyer for amendment or approval.

27. A computer program product for use with a computer, the computer program product comprising a computer usable medium having computer readable program code embodied in said medium for conducting a contractual activity over a computer network pursuant to a contract between at least one seller and at least one buyer, the contract comprising a predefined set of terms and conditions, said computer program product having

a. computer readable program code for storing the contract terms and conditions,

b. computer readable program code for receiving information from one of the seller and

the buyer via a communications interface, and

c. computer readable program code for referencing the terms and conditions of the contract to process the information.

28. The computer program product as defined in claim 27 in which the communications interface displays selected information based on terms and conditions in the contract.

29. The computer program product as defined in claim 28 including the step of providing the contract with representation criteria comprising product selection criteria or products exclusion criteria, or both, wherein the communications interface displays a filtered products list comprising a subset of products from a master product list.

30. A system for generating a contract between at least one seller and at least one buyer, comprising:

at least one compilation of business rules comprising a plurality of rules available to be selected for inclusion in the contract,

at least one terms and conditions set containing parameters corresponding to selected rules from the compilation of business rules,

means for generating links between the compilation of business rules and the terms and conditions set to generate specific terms and conditions to be embodied in the contract, and

means for interlocking the compilation of business rules, the terms and conditions set and the links to lock the contract.

31. The system as defined in claim 30 comprising means for storing at least one product list filter for generating a list of a specified subset of products from a master list of products, and means for generating links between the product list filter, the terms and conditions set and the master list of products.

32. The system as defined in claim 31 in which the product list filter comprises a plurality of tiers, each tier generating a list of a different subset of products.

33. The system as defined in claim 31 in which the contract comprises dynamic elements which can be unilaterally altered by either the seller or the buyer.

34. The system as defined in claim 33 in which the product list filter is a dynamic element.

35. The system as defined in claim 30 in which the contract is locked by the implementation of digital signatures.

36. A processing system for conducting a contractual activity over a computer network pursuant to a contract between at least one seller and at least one buyer, the contract comprising a predefined set of terms and conditions, comprising:

a communications interface for receiving information from one of the seller and the buyer, means for storing the contract terms and conditions, and

means for referencing the terms and conditions of the contract to process the information.

37. The system as defined in claim 36 in which the communications interface displays selected information based on terms and conditions in the contract.

38. The system as defined in claim 37 in which the contract contains representation criteria comprising product selection criteria or products exclusion criteria, or both, and the communications interface displays a filtered products list comprising a subset of products from a master product list.

39. A program product for use with a computer, having computer readable program code for generating a contract between at least one seller and at least one buyer, the program product comprising:

a. computer readable program code for storing at least one compilation of business rules comprising a plurality of rules available to be selected for inclusion in the contract,

b. computer readable program code for storing at least one terms and conditions set containing parameters corresponding to selected rules from the compilation of business rules,

c. computer readable program code for generating links between the compilation of business rules and the terms and conditions set to generate specific terms and conditions to be embodied in the contract, and

d. computer readable program code for interlocking the compilation of business rules, the terms and conditions set and the links to lock the contract.

40. The program product as defined in claim 39 including:

a. computer readable program code for storing at least one product list filter for generating a list of a specified subset of products from a master list of products, and

b. computer readable program code for generating links between the product list filter, the terms and conditions set and the master list of products.

41. The program product as defined in claim 40 in which the product list filter comprises a plurality of tiers, each tier generating a list of a different subset of products.

42. The program product as defined in claim 40 in which the contract comprises dynamic elements which can be unilaterally altered by either the seller or the buyer.

43. The program product as defined in claim 42 in which the product list filter is a dynamic element.

44. The program product as defined in claim 43 in which the contract is locked by the implementation of digital signatures.

45. The program product as defined in claim 43 including computer readable program code for communicating the contract to the seller or to the buyer for amendment or approval.

46. A program product for use with a computer, having computer readable program code for conducting a contractual activity over a computer network pursuant to a contract between at least one seller and at least one buyer, the contract comprising a predefined set of terms and conditions, the program product comprising:

a. computer readable program code for storing the contract terms and conditions,

b. computer readable program code for receiving information from one of the seller and the buyer via a communications interface, and

c. computer readable program code for referencing the terms and conditions of the contract to process the information.

47. The program product as defined in claim 46 in which the communications interface displays selected information based on terms and conditions in the contract.

48. The program product as defined in claim 47 including the step of providing the contract with representation criteria comprising product selection criteria or products exclusion criteria, or both, wherein the communications interface displays a filtered products list comprising a subset of products from a master product list.

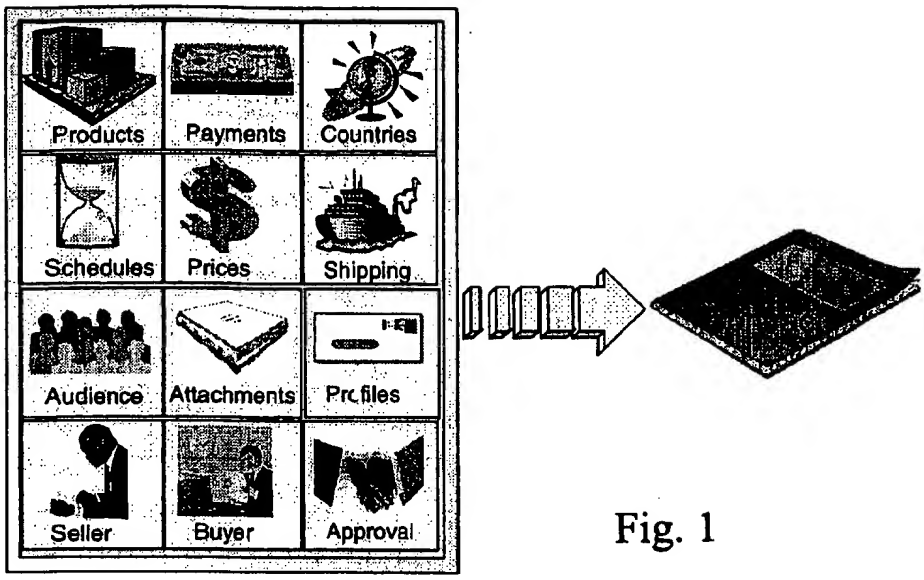
Products
Payments
Countries
Schedules
Prices
Shipping
Audience
Attachments
Profiles
Seller
Buyer
Approval

Fig. 1

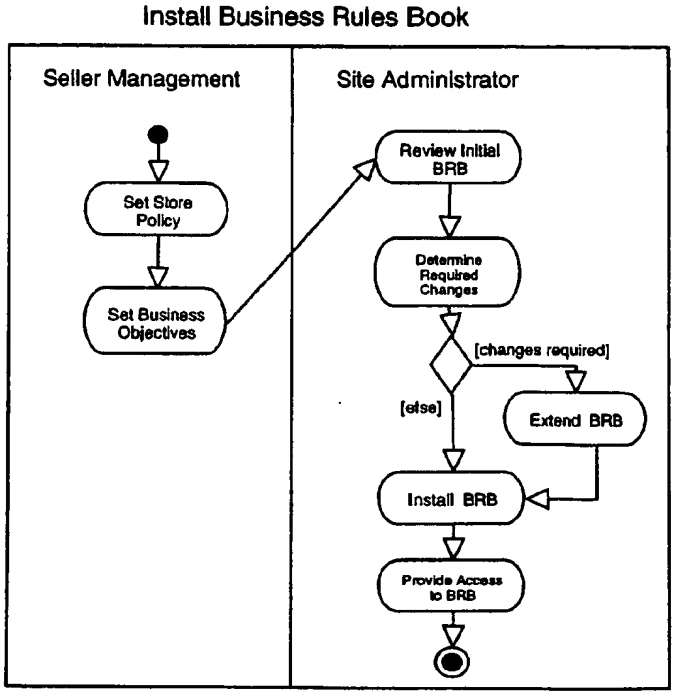
Install Business Rules Book
Seller Management
Site Administrator
Set Store Policy
Set Business Objectives
Review Initial BRB
Determine Required Changes
[changes required]
[else]
Extend BRB
Install BRB
Provide Access to BRB

Fig. 2

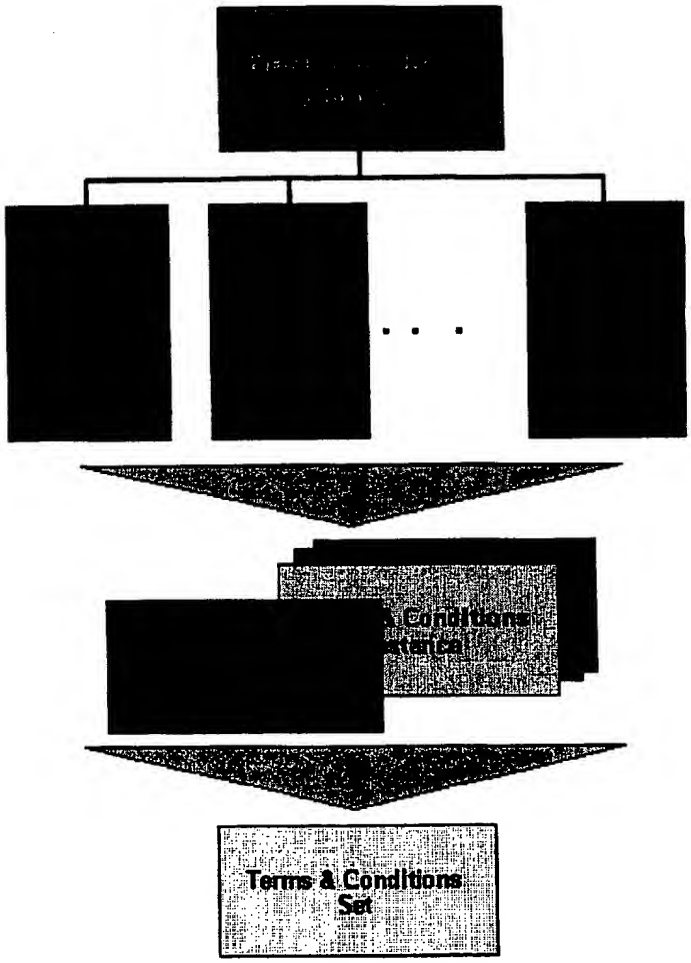

Fig. 3

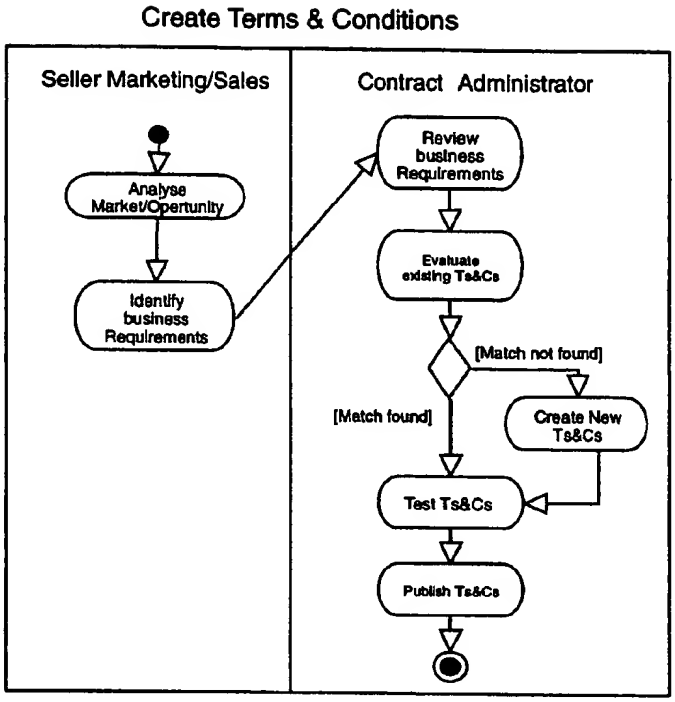
Create Terms & Conditions
Seller Marketing/Sales
Contract Administrator
Analyse Market/Opertunity
Identify business Requirements
Review business Requirements
Evaluate existing Ts&Cs
[Match not found]
[Match found]
Create New Ts&Cs
Test Ts&Cs
Publish Ts&Cs

Fig. 4

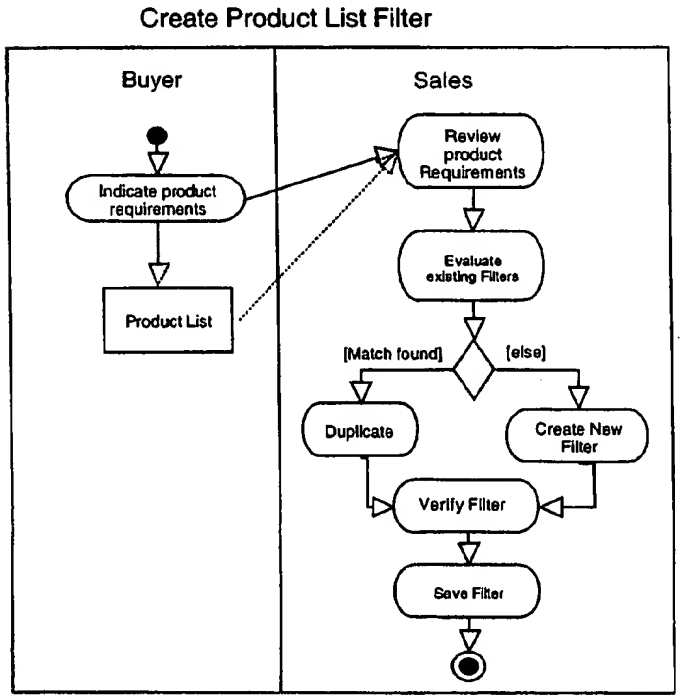
Create Product List Filter
Buyer
Sales
Indicate product requirements
Product List
Review product Requirements
Evaluate existing Filters
[Match found]
[else]
Duplicate
Create New Filter
Verify Filter
Save Filter

Fig. 5

Linking Multi-Fold Ts&Cs Pages to PLF

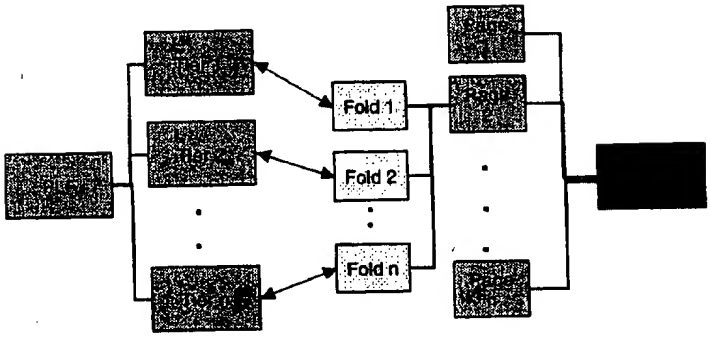

Fig. 6

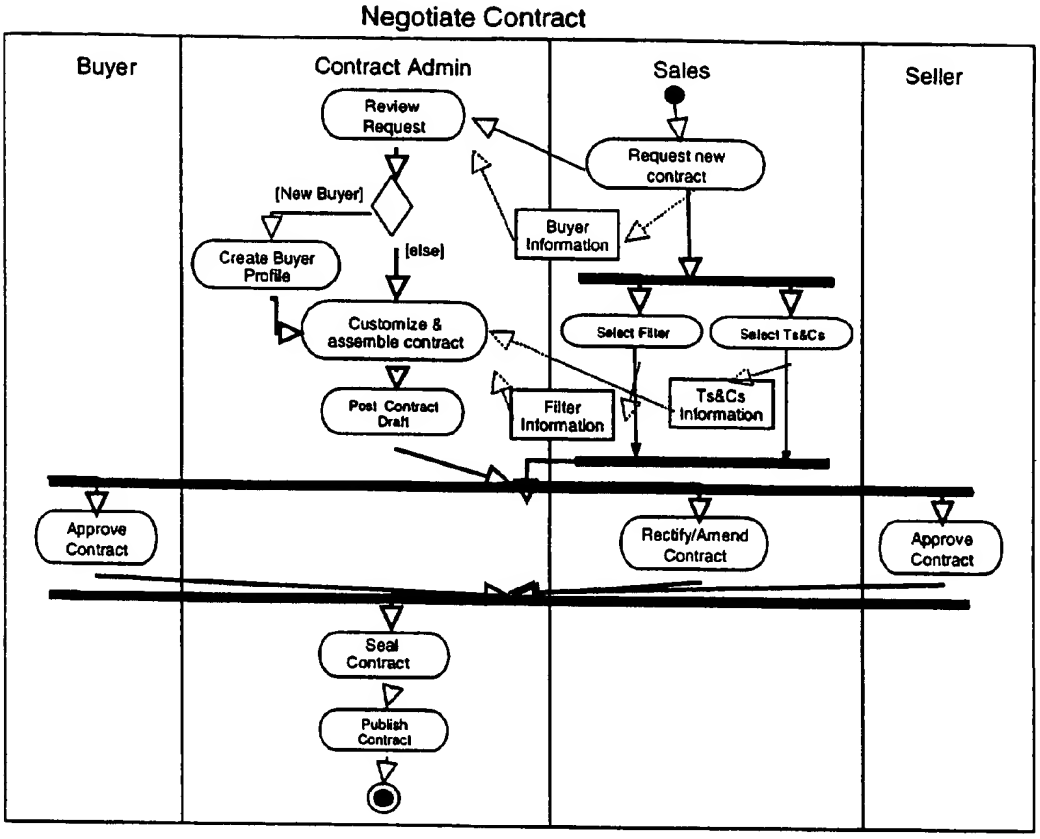
Negotiate Contract
Buyer
Contract Admin
Sales
Seller
Review Request
Request new contract
[New Buyer]
[else]
Buyer Information
Create Buyer Profile
Customize & assemble contract
Select Filter
Select Ts&Cs
Post Contract Draft
Filter Information
Ts&Cs Information
Approve Contract
Rectify/Amend Contract
Approve Contract
Seal Contract
Publish Contract

Fig. 7

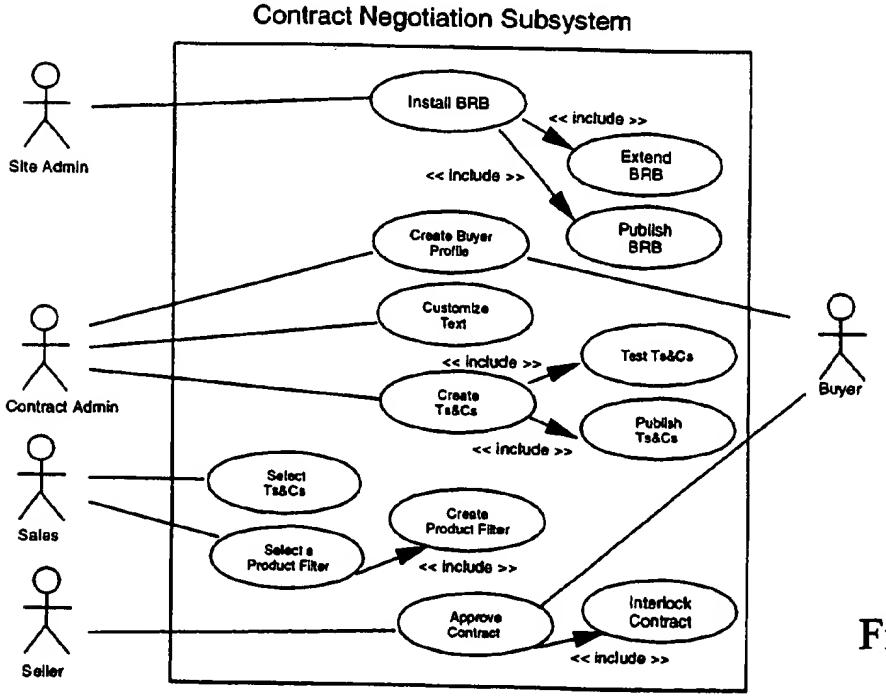
Contract Negotiation Subsystem
Site Admin
Contract Admin
Sales
Seller
Buyer
Install BRB
<< include >>
Extend BRB
Publish BRB
Create Buyer Profile
Customize Text
Test Ts&Cs
Create Ts&Cs
Publish Ts&Cs
Select Ts&Cs
Create Product Filter
Select a Product Filter
Approve Contract
Interlock Contract

Fig. 8

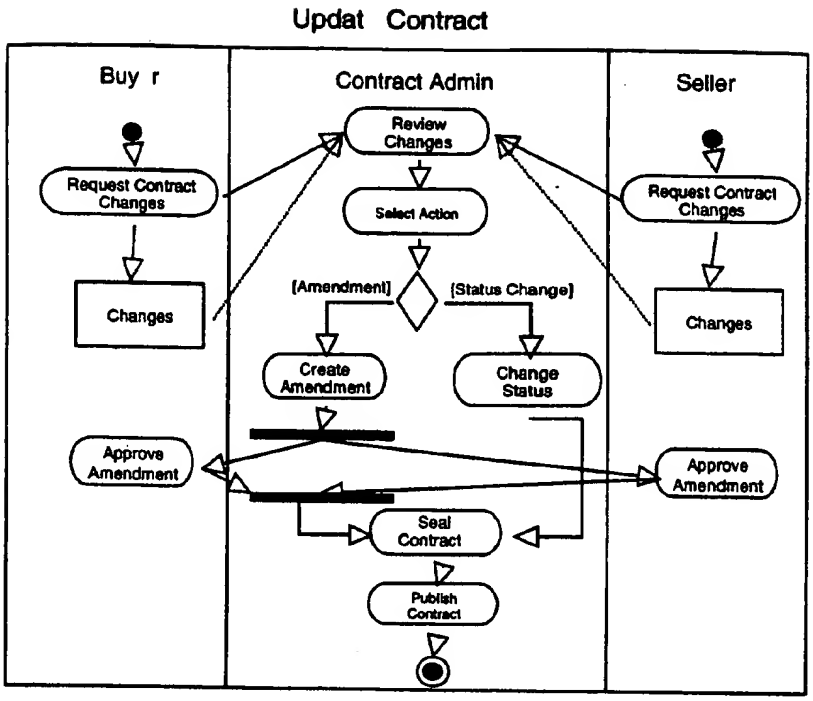
Updat Contract
Buy r
Contract Admin
Seller
Review Changes
Request Contract Changes
Select Action
Request Contract Changes
[Amendment]
[Status Change]
Changes
Changes
Create Amendment
Change Status
Approve Amendment
Approve Amendment
Seal Contract
Publish Contract

Fig. 9

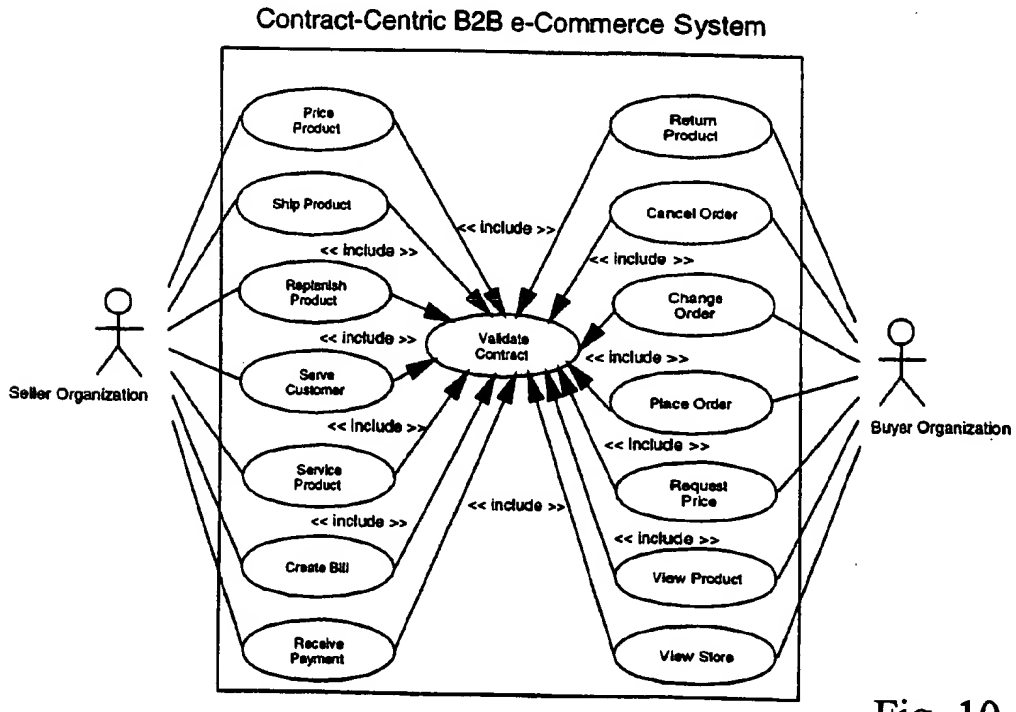
Contract-Centric B2B e-Commerce System
Price Product
Ship Product
Replenish Product
Serve Customer
Service Product
Create Bill
Receive Payment
Return Product
Cancel Order
Change Order
Place Order
Request Price
View Product
View Store
<< include >>
Validate Contract
Seller Organization
Buyer Organization

Fig. 10

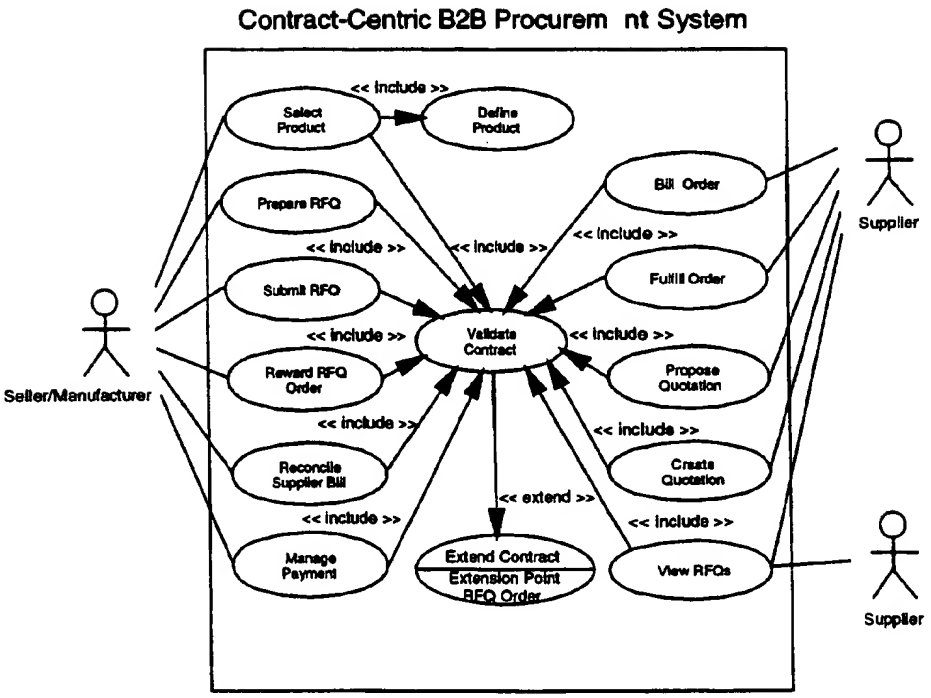
Contract-Centric B2B Procurem nt System
<< include >>
Select Product
Define Product
Prepare RFQ
Submit RFQ
Reward RFQ Order
Reconcile Supplier Bill
Manage Payment
Validate Contract
Extend Contract
Extension Point
RFQ Order
<< extend >>
Bill Order
Fulfill Order
Propose Quotation
Create Quotation
View RFQs
Supplier
Supplier
Seller/Manufacturer

Fig. 11

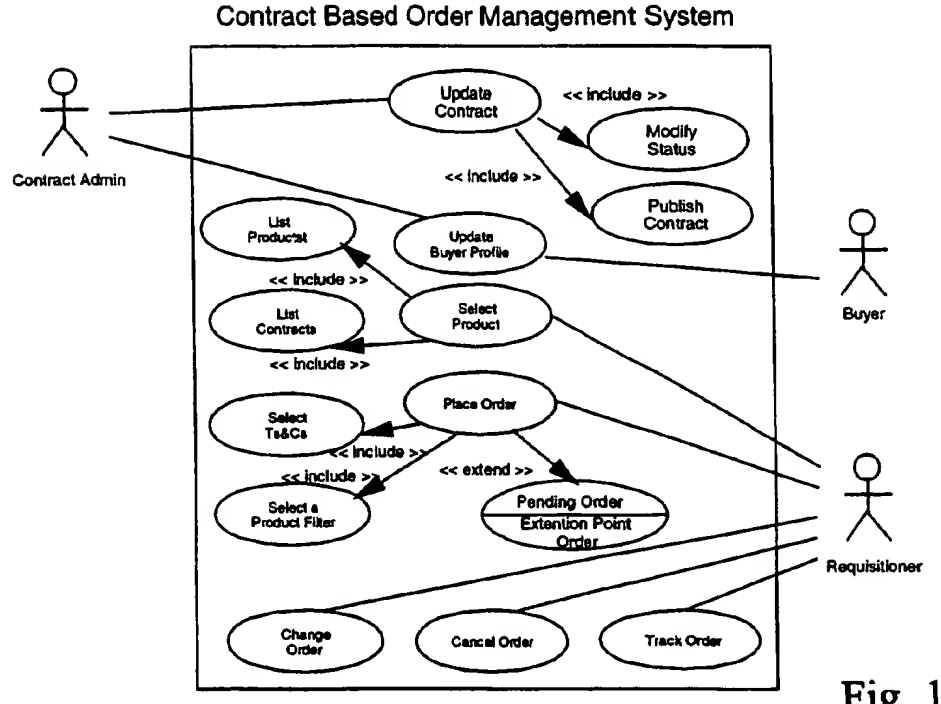
Contract Based Order Management System
Contract Admin
Update Contract
Modify Status
Publish Contract
List Products
Update Buyer Profile
List Contracts
Select Product
Select Ts&Cs
Place Order
Select a Product Filter
Pending Order
Extention Point
Order
Change Order
Cancel Order
Track Order
Buyer
Requisitioner

Fig. 12